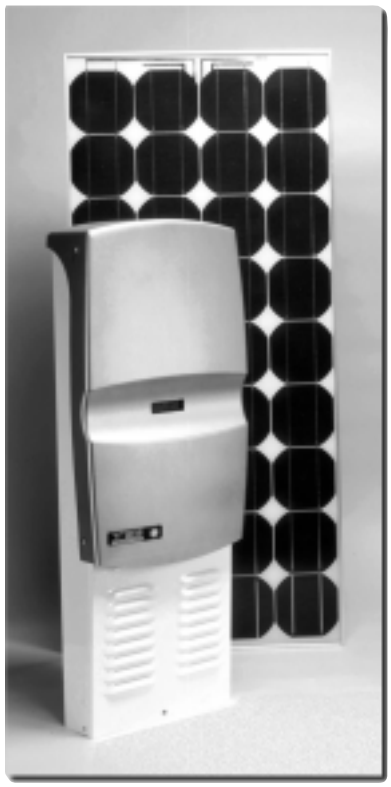
Sun Tie (ST)

Solar Electric Inverter

Connecting The Sun To Your Utility Meter

Trace Engineering's new Sun Tie (ST) solar electric inverters are designed, built and priced to make the benefits of site-generated PV power easy for anyone to attain. The Sun Tie operates interactively with the utility, without the use of batteries. Made specifically for new, small-scale, independent power producers, the ST is a perfect choice for anyone interested in participating in the emerging Green Power market. The ST is available in four models with output capacity of 1.0, 1.5, 2.0 and 2.5 kVA.



ST Series Inverter*

Distributed generation, using the power of the sun, is a win - win choice for the environment, utility companies and consumers alike. With this form of electrical distribution, solar PV power is generated and inverted at the location where it's used. Solar electricity helps reduce the need for new large-scale—and often environmentally harmful—generating stations and distribution lines.

Consumers can have lower electricity bills because any PV power they generate is either used in their home or business or, when there is excess, sold to the utility company. "Net Metering" is one way electricity is exchanged between the power grid and solar generators. Net Metering programs are available from many utility companies, contact your local electricity provider for details.

Utilities benefit from increased solar generation by gaining the ability to resell the PV power they purchase to environmentally conscious customers at premium Green Power rates. Consumer generated, solar electricity can also help utility companies meet their growth requirements at lower capital costs.

Introducing the Sun Tie

All-in-One Design

All NEC (U.S. National Electrical Code) required DC input and AC output connections, disconnects and circuit breakers are housed within the Sun Tie's compact case. A built in LCD panel provides easy-to-read system status and daily cumulative power production information.

Works With Any Type of PV Technology

The ST is designed to optimize the output from all types of solar electric technologies. The open circuit voltage window of the Sun Tie ranges up to 125 VDC so both conventional Crystalline and newer Thin Film PV modules can be used.

Maximum Power Point Tracking

The Sun Tie uses sophisticated software to track and adjust the output of the PV array. Our Maximum Power Point Tracking (MPPT) software, which samples once a minute, ensures complete harvest of the sun's energy all day long.

Expandable

Multiple ST inverters can be connected to a utility grid so that additional generating capacity may be added in a fully modular manner.

High Efficiency, Long Life Design

The high frequency, solid state design of the ST inverter is extremely efficient. The inverter efficiency is over 90%, with peak efficiencies of 94%. Built and designed in the U.S.A. by Trace Engineering, makers of the worlds most reliable inverters, the Sun Tie is sure to provide many years of trouble free service and carries a two year warranty.

* The Sun Tie is shown with optional protective rain shield which is required for outdoor installation of the inverter.

Standard Features:

Sun Tie—Utility interactive inverter, 240 VAC 60 Hz output. Includes factory installed DC and AC input/output breakers, combination DC and AC lightning arrestor.

Options:

STRS—Protective rain shield, required for out door installation of ST Series inverters

Certifications:

UL Listed—The Sun Tie is UL Listed to UL 1741 and cUL Listed to CSA 22.2. The ST is designed to comply with IEEE 929.

Note:

ST1000 and **ST2000** models do not include PV ground fault interrupters and PV combiner boards. Trace offers a PV ground fault interrupter (**PVGFP**) which requires an enclosure (not included) and a UL Listed 10 circuit combiner box (**TCB10**). Both of these items can be ordered separately.

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LISTED
UL1741

Sun Tie

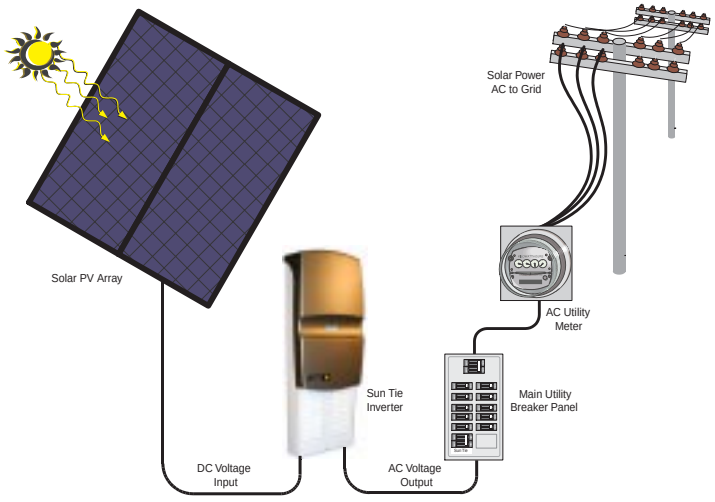
Utility Interactive Solar Electric Inverter

Model	ST1000	ST1500	ST2000	ST2500
AC Voltage – Nominal	240 VAC			
DC Input Voltage Range– Nominal	52 - 85 VDC			
Minimum Perational DC Input	42 VDC			
Minimum Wake-up DC Input Voltage	70 VDC			
AC Voltage - Min/Max	211-254 VAC (North American models)			
Maximum Power Point Tracking	52 – 85 VDC (For full rated AC output power)			
Absolute Maximum PV Open Circuit Voltage	125 VDC			
AC Output Characteristics	Current source			
Frequency - Nominal	60 Hz			
Frequency Window - Min/Max	59.5 - 60.5 Hz Default			
Continuous AC Output @ 25 °C	1.0 kVA	1.5 kVA	2.0 kVA	2.5 kVA
Efficiency - Peak	92%		94%	
AC Output Waveform	Sine wave, high frequency PWM controlled			
Total Harmonic Distortion	Less than 5% at rated power per IEEE 929 and UL 1741			
AC Disconnect	Double pole 15 Amp 240 VAC rated circuit breaker			
DC Disconnect	Single pole 100 Amp DC rated circuit breaker			
Specified Temperature Range	32 °F – 113 °F (0 °C – 45 °C)			
Islanding Protection	Over/under AC Voltage and frequency detection plus active islanding detection – Meets IEEE 929 and UL 1741 requirements.			
User Display	Backlit alphanumeric LCD displays –AC RMS voltage, AC frequency, DC volts, output power (watts) and cumulative daily power production (watt/hours).			
Enclosure Type	Powder coated aluminum enclosure, fully screened			
Dimensions - Inverter Only	13.25" W x 33.25" H x 5.3" D (33.8 cm W x 83.1 cm H x 13.25 cm D)			
Weight – Inverter Only	35 lbs. (16 kg)			
Dimensions – Shipping	15.75" W x 37.75" H x 9.5" D (39.4 cm W x 94.4 cm x 23.8 cm D)			
Weight – Shipping	40 lbs. (18 kg)			
Mounting	Vertical wall mount only			
Certifications	UL Listed to UL 1741 and CSA 22.2 #107.1-95			

Specifications subject to change without notice

Standard Features and Options				
Model	ST1000	ST1500	ST2000	ST2500
PV Ground Fault Protection System	—	Standard	—	Standard
PV combiner board with 6 fused inputs 20 Amp max per input	—	Standard	—	Standard
Surge arrestor – Combined AC/DC protection	Standard	Standard	Standard	Standard
Rain Shield (**STRS**) – Protective rain shield Required for outdoor installation	Optional	Optional	Optional	Optional

Available From:



The Sun Tie connects all the elements of a utility interactive solar electric system together.